

and we then have in the cases above referred to additional evidence of the correctness of the antitoxin theory of immunity. But it may be objected that the evidence of benefit in the cases of pneumonia is equivocal, since in many untreated cases of that disease desferescence occurs early—on the fourth, fifth, or sixth day of the disease, and that little more than this was accomplished in the test cases. The regularity with which the critical symptoms followed upon the injections after an almost uniform interval of time seems to us, however, very forcibly to suggest a relationship of cause and effect between the treatment and the amelioration of the symptoms. And it should be remembered that at best such early crisis in untreated cases of pneumonia is exceptional. At all events, the harmlessness of the treatment is demonstrated, so that we may hope soon to be possessed of enough observations to remove all doubt.

ABSCESS OF THE HAND AS A COMPLICATION OF GONORRHEA.

As a recent contribution to the long list of complications of gonorrhœa which have been shown to be due to the presence of the gonococcus in the remote lesion, we have the report of a case by HORWITZ (*Wiener klinische Wochenschrift*, 1893, No. 4), in which a young man, twenty-seven years old, who had suffered from gleet for a year, was affected by an abscess on the back of the hand. Examination of its contained pus showed the presence of the gonococcus of Neisser, both microscopically and in cultures.

In a carefully compiled introduction, Horwitz reviews the cases of a similar nature which had been published up to the time of his writing.

URINARY INFECTION: ITS CAUSES.

THE great importance of a correct knowledge of the nature of the various bacterial diseases of the urinary tract makes a recent contribution to the etiology of these diseases by KROGIUS of much interest (*Recherches bactériologiques sur l'Infection urinaire*. Helsingfors, 1892, 8vo., pp. 108). Krogus's observations extended to twenty-two carefully studied cases of urinary infection, some of them fatal, comprising cystitis, pyelo-nephritis, abscess of the bladder, and cases in which bacteria were present in the urine without apparent lesion of the urinary tract.

In all, five different species of bacteria were found, either acting as the causes of the various disorders or aggravating them by their presence. The most frequent of these was the bacillus coli communis, which was present in seventeen of the cases; proteus vulgaris occurred in two; staphylococcus pyogenes aureus in two; and the gonococcus in two. Commonly only one variety of micro-organism was present in each case; in three only was this not the case.

In four of the cases bacillus coli communis was found in the urine in large numbers without evidence of inflammation of the urinary tract, though in two of these there were fever and emaciation. The other cases in which bacillus coli communis was found, and those in which proteus vulgaris was present were of considerable severity, and in several the germs were detected after death iniliary abscesses of the kidneys, in abscesses of the bladder, in the blood, and in complicating lesions in various parts of the body. An important difference was observed between the cystitis caused by bacillus coli

communis and that of proteus vulgaris. In the former the reaction of the urine is acid, as the bacillus possesses only a slow decomposing action, while in the latter its reaction is strongly alkaline, proteus causing active ammoniacal fermentation. A marked difference in these germs as regards pathogenic power was disclosed by animal experiments. The mere introduction of a virulent culture of proteus into the bladder was sufficient to set up a decided cystitis, but artificial retention of urine was found to be a necessary adjuvant in the case of the bacillus.

ACUTE ULCERATIVE ENDOCARDITIS.

THE *Bulletin of the Johns Hopkins Hospital* contains the report by W. T. HOWARD, JR., of a case of acute ulcerative endocarditis due to the bacillus diphtheriae. The lesion on the mitral valve was unmistakable, and Dr. Welch remarks, in commenting upon the case: "We found in pure culture and in large number in the valvular vegetations, the spleen, and the kidney, a bacillus absolutely indistinguishable from the Klebs-Loeffler bacillus of diphtheria in its morphological and cultural properties." The cultures were studied by Dr. Welch and by Dr. Abbott, of Philadelphia, with the result above quoted. Dr. Howard's bacillus was not pathogenic to guinea-pigs, but this can hardly be regarded as a valid point of distinction from Loeffler's bacillus, as the experiments of Roux and Yersin and of Abbott have shown that the genuine diphtheria bacillus may be devoid of pathogenic qualities as regards animals.

Admitting Howard's bacillus to be true diphtheria bacillus, we have here the first observation of its etiological relation to acute ulcerative endocarditis, and therewith an explanation of the occasional occurrence of endocarditis as a complication of diphtheria.

ON THE NATURE AND ORIGIN OF CASTS OF THE URINARY TUBULES.

THE question as to the exact nature of urinary casts has never reached a satisfactory solution, notwithstanding much study and discussion. The origin of the epithelial, blood, and granular varieties is easily apparent, but to what are we to attribute the formation of the very common hyaline casts? Are they a changed exudate from the bloodvessels of the kidney, or are they composed of degenerated protoplasm of tubular epithelium?

The discussion of this subject has recently been reopened by P. ERNST (*Ziegler's Beiträge*, xii. 553) who expresses his belief that hyaline casts are in great part composed of changed fibrin, basing this opinion chiefly upon the manner in which certain stains, particularly Weigert's "fibrin" stain, color the hyaline material of which the casts are composed.

This view is objected to by O. LUBARSCH (*Centralblatt für allgemeine Pathologie und pathologische Anatomie*, 1893, iv., No. 6, p. 209) on the grounds that a great variety of hyaline materials retain the color of Weigert's stain, although admittedly having nothing to do with fibrin; that the hyaline material of casts is furthermore stained by processes which fail to color fibrin; and that casts do not appear in those parts of the kidney in which exudations collect and where we should expect to find them were they the result of exudation from the bloodvessels. As the result of study of a large number of kidneys in various diseases, Lubarsch has found that fibrin occurs